

MODZEA

State of West Virginia Department of Administration Purchasing Division 2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130

RFQ COPY TYPE NAME/ADDRESS HERE

CTL Engineering of West Virginia, Inc. 733 Fairmont Road Morgantown, WV 26501

Solicitation

NUMBER DEP16394 PAGE

ADDRESS CORRESPONDENCE TO ATTENTION OF

FRANK WHITTAKER 304-558-2316

ENVIRONMENTAL PROTECTION DEPARTMENT OF SH OFFICE OF AML&R 601 57TH STREET SE TO CHARLESTON, WV 25304 304-926-0499

DATE PRINTED 12/04/2013

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TITLE Director Bu	siness Development F	EIN 55-063	-1834			CHANGES TO BE	

Phone: 304/292-1135 • Fax: 304/296-9302

e-mail: ctlwv@ctleng.com

AN EMPLOYEE OWNED COMPANY



Consulting Engineers • Testing • Inspection Services • Analytical Laboratories

Established 1927

December 23, 2013

West Virginia Department of Environmental Protection
Office of Abandoned Mine Lands & Reclamation
601 57th Street SE
Charleston, WV 25304

Re: RFQ #DEP 16394 Expression of Interest Design Engineering Services Proposal Crany Mine Dump Project

Gentlemen:

CTL Engineering of WV, Inc. is very pleased to present this proposal to provide design engineering and related services for the West Virginia Abandoned Mine Lands and Reclamation Program. With over 80 years in the business, we feel our firm can provide the professionals and facilities the State of West Virginia is looking for.

CTL has evolved into a recognized leader in the Abandoned Mine Lands Engineering Design and Investigation field. We offer the services necessary to provide a non-subcontract, quality product to support your program. Our capabilities include laboratory facilities, drilling rigs, surveying systems, design equipment, and a qualified staff. We have 12 Professional Engineers, five of which are registered in West Virginia and have direct AML Design Experience. Our in-house disciplines of professionals include: Civil & Mining Engineers, CAD Designers, Surveyors, Geologists, Hydrologists and Biologists. We are experienced in completing more than 50 projects annually that require aerial mapping, support surveying with GPS, and final contouring for design.

Our in-house ability reaches beyond simply being an AML design firm. We also have extensive contract administration and management experience with the procedures of the state of West Virginia. Our invoicing procedures and accounting software has been accepted, used, and audited by various state agencies.

CTL's primary staff has over 125 years of experience with mine reclamation engineering on both a national and international level. Our qualifications and facilities are unsurpassed when it comes to Abandoned Mine Reclamation Design. With offices in Charleston and Morgantown, we can effectively respond to any AML Design tasks throughout West Virginia. In addition, we have six full time design teams available to complete AML design projects. Our corporation and individual staff members have extensive experience relative to refuse reclamation design, streambank protection and drainage control structures. The Crany Mine Dump Project is similar in scope to more than 35 AML design

projects we have successfully completed. Attached to this proposal are numerous examples of similar projects successfully designed and completed.

We sincerely appreciate the opportunity to submit this proposal to you for consideration. Should you have any questions or need additional information, please contact our office.

Respectfully submitted,

CTL Engineering of West Virginia, Inc.

Royden L. Loucks

Director Business Development





EXPRESSION OF INTEREST

To provide

Professional Engineering Design Services

and

Construction Monitoring Services

for the

Crany Mine Dump
Wyoming County, West Virginia
DEP16394

Prepared for the
West Virginia Department
of Environmental Protection
Office of AML&R

CTL Engineering of West Virginia, Inc.

733 Fairmont Road

510 C Street

Morgantown, WV 26501

South Charleston, WV 25303

Table of Contents

Statement of Qualifications to Provide Professional Engineering Services

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- 2. PROJECT MANAGEMENT PLAN
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- 4. CCQQ ATTACHMENT "B"
- 5. RPEM ATTACHMENT "C"

Project Management Plan

Our approach to the **Crany Mine Dump Project** will be similar to other CTL AML refuse reclamation projects. The Project Management Plan we have developed for these sites are as follows:

- The project manager will be solely responsible for expedient and accurate completion of each phase of the individual projects performed under this contract. He will review the project sites and discuss the specific scope of work for the project with the project representative from the WVDEP. A cost proposal will be prepared, in accordance with contract unit rates, based upon an estimate of manpower, equipment, and laboratory needs.
- CTL will then mobilize a fully equipped survey crew to set survey control and map the
 project sites. Permanent control monuments will be established to ensure that the
 construction contractor can tie into the necessary baselines. The project manager will
 supervise the surveying tasks and provide budgetary control for this portion of the work.
- A geotechnical investigation shall be performed to delineate the mine refuse and optimum grading design to minimize material handling within the site. This investigation shall be performed with a focus on safety to insure the safety of the local inhabitants and dwellings as well as the safety of the drilling and geotechnical personnel.
- Should field conditions dictate that additional work or a major modification is required, the project manager will contact the WVDEP representative immediately to confirm the changed conditions.
- Following completion of the surveying, field investigation. and any material sampling, the
 analytical design work will begin. The Project Manager and Engineer will review the project
 data, evaluate the feasible alternatives and prepare a preliminary set of construction
 documents. The documents will include at a minimum:
- 1. A site map indicating existing conditions;
- 2. A tax map overlay with the parcels identified that may be impacted by the proposed design;
- 3. Proposed grading plans for regrading and reclamation of refuse, including safely dewatering and excavation of any ponding areas;



- 4. Proposed streambank protection plan utilizing natural stream design;
- 5. Provide Sedimentation and Erosion Control Plan
- 6. Site Profiles:
- 7. Cross Sections;
- 8. Drainage systems and control structures, with details;
- 9. Survey control points;
- 10. Miscellaneous Site details.
- CTL will also provide all necessary data for NPDES permits including S&E Control Plans as required for the site construction and if deemed necessary, perform environmental assessments.
- In addition to preparation of the above-described drawings, a complete set of specifications will
 be prepared and outlined to describe in detail the scope and methods of work to be
 accomplished. An estimate of construction costs and the design calculations will also be
 submitted to the WVDEP for review and future reference.
- Following the submission of the construction documents, a project design review meeting will be coordinated with the WVDEP, CTL, and appropriate individuals to review the proposed plans.
- Recommendations for plan revisions will be discussed and implemented, as necessary, into the final design documents. Upon completion, all final documents, drawings, plans and specifications will be forwarded to the WVDEP for bidding purposes.
- Construction observation will be provided during the construction phase of the projects
- At the request of the WVDEP, CTL will provide construction observation personnel.

Our Project Manager and/or Engineer will coordinate the pre-bid and pre-construction conferences with the WVDEP to address any questions and supply the necessary survey control data. Periodic inspections may be conducted by our Project Manager, as deemed necessary by the WVDEP, to address specific problems that arise during construction. A report will be prepared by CTL following each of these meetings detailing the findings, conclusions, recommendations, and responses to pertinent questions.



Project Scope

Crany Mine Dump

Project Scope of Work:

Provide clearing and grubbing plan of site

Design diversion channels, ditches and/or underdrains to transport drainage safely off-site

Design regrading plan for refuse reclamation on site utilizing available on site material and (if required) borrowed soil to AOC.

Identify and provide plan for borrow area, if required

Design plan for streambank protection utilizing natural stream design techniques.

Provide revegetation plan including soil cover for all areas disturbed during construction

Provide required data for clearing and grubbing, S&E Control Plans and NPDES Permit submittal by AML



CTL Engineering of West Virginia, Inc.

An Employee Owned Company

CTL Engineering of West Virginia, Inc. (CTL of WV) is a full service consulting civil engineering, testing, inspection, and analytical services company. CTL Engineering of West Virginia, Inc. was formed in 1981 to service West Virginia, Maryland and Pennsylvania. CTL of WV is part of CTL Engineering, Inc. formerly known as Columbus Testing Laboratory, which was established in Columbus, Ohio in 1927 as an independent engineering testing laboratory serving the local community. During the early years, our expertise focused mainly on soils, foundation engineering, and construction testing and inspection services.

The Engineering News-Record ranked CTL Engineering, Inc. among top 500 architectural and engineering firms in the nation. CTL Engineering maintains a staff of over 200 employees, including registered engineers, architects, chemists, environmental scientists, geologists, hydrologists, wetland scientists and technicians.

CTL of WV provides total Civil Site Design for development projects throughout West Virginia. These designs include site layouts, utility design and interconnections, stormwater management design, parking and roadway design, permit preparation and submittal, and interaction with architects, owners and all interested parties to the projects.

CTL of WV provides all necessary surveying services required of projects including boundary and ALTA surveys, topographic surveys, aerial survey control, GPS surveys, and site construction surveys to assure proper construction and compliance with specifications of the project.

CTL of WV has become an industry leader in geotechnical design and investigations. In the past 5 years, CTL of WV has provided over 1000 geotechnical investigations including drilling, sampling and design for both the public and private sectors. CTL of WV is regularly called upon to provide unique geotechnical engineering design services for projects throughout the United States and Canada.

CTL of WV provides environmental services for developments throughout West Virginia and Maryland. Environmental Services include Phase I and II ESAs, wetland delineation and mitigation plans, State and Federal 401 and 404 Permit submittals, Ms4 Phase II storm water permitting, soil and groundwater sampling, asbestos surveys and sampling, lead based paint testing, mold testing, UST removal oversight, hazardous material identification and remedial design and other environmental services as required

CTL of WV provides construction, material and concrete testing and observation services. CTL of WV has ten field technicians providing dedicated construction observation and compliance testing. CTL's in-house material laboratory provides the much needed prompt turn-around required for projects to be successful.

Additional services provided by CTL include Nondestructive Testing and Inspection, Forensic Science, Accident Re-Construction, Roofing Consulting, Product Testing, Laboratories, Analytical Chemistry and Metallurgy Services.



HOPEWELL CHURCH REFUSE & AMD DEP 16074

MINE PORTALS, COAL REFUSE & MINE DRAINAGE

CTL Engineering Inc.

Preston County, West Virginia

CTL Professional Services

- Surveying
- Geotechnical
- Civil Site Design
- Construction Documents
- Natural Stream Design

Project Background

The site consisted of refuse, open portals and mine drainage with impounded water, collapsed mine portals. Foreign materials were present throughout site.

Project Scope

CTL Engineering of West Virginia, Inc. was retained to provide the following services and design:

- Geotechnical drilling for mine pools
- Surveying
- Clearing & Grubbing Plan
- Mine Seals
- Diversion & Drainage for total site
- Dewater, excavate and seal all portals
- Refuse Reclamation & Removal of all foreign material
- Revegetation Plan including soil cover
- Sedimentation & Erosion Control Plans





Client / Contact

WV DEP-AML&R
101 Cambridge Place
Bridgeport, WV 26501
Design Completion Date
2014

MORGANTOWN (ANDERSON) PORTALS & HIGHWALLS DEP15609



MINE PORTALS, HIGHWALLS & FOREIGN MATERIALS

CTL Engineering Inc.

Monongalia County, West Virginia

CTL Professional Services

- Surveying
- Geotechnical
- Civil Site Design
- Construction Documents

Project Background

The site consisted of dangerous highwalls, seven or more open or partially open portals and a dangerous scrap yard with potentially dangerous materials.

Project Scope

CTL Engineering of West Virginia, Inc. was retained to provide the following services and design:

- Geotechnical drilling for mine pools
- Surveying
- Clearing & Grubbing Plan
- Mine Seals
- Diversion & Drainage for total site
- Dewater, excavate and seal all portals
- Refuse Reclamation & Removal of all foreign material
- Revegetation Plan including soil cover
- Sedimentation & Erosion Control Plans





Client / Contact

WV DEP-AML&R 101 Cambridge Place Bridgeport, WV 26501

Design Completion Date 2013

Estimated Construction Cost \$350,000

SHINN'S RUN PORTALS DEP 15235

MINE PORTALS, COAL REFUSE, HIGHWALLS & MINE DRAINAGE



Shinnston, Harrison County, West Virginia

CTL Professional Services

- Surveying
- Geotechnical
- Civil Site Design
- Construction Documents
- Natural Stream Design

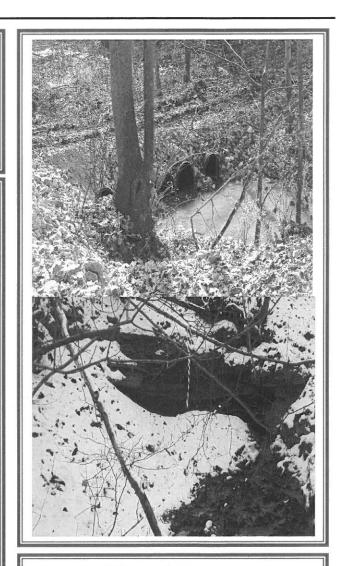
Project Background

The site consisted of open portals and mine drainage with impounded water, collapsed mine portals and highwalls. Refuse and foreign materials were present throughout site.

Project Scope

CTL Engineering of West Virginia, Inc. was retained to provide the following services and design:

- Geotechnical drilling for mine pools and foundation recommendations
- Surveying
- Clearing & Grubbing Plan
- Access Road
- Diversion & Drainage for total site
- Dewater, excavate and seal all portals
- Stream Bank Stabilization
- Removal of all foreign material
- Revegetation Plan including soil cover
- Sedimentation & Erosion Control Plans



Client / Contact

WV DEP-AML&R 101 Cambridge Place Bridgeport, WV 26501

Design Completion Date 2012

Estimated Project Cost \$1,500,000

ST. CLAIR PORTALS DEP 14233

MINE PORTALS, COAL REFUSE, HIGHWALLS & MINE DRAINAGE



Morgantown, Monongalia County, West Virginia

CTL Professional Services

- Surveying
- Geotechnical
- Civil Site Design
- Construction Documents
- Natural Stream Design

Project Background

The site consisted of coal refuse, acid mine drainage with impounded water, collapsed mine portals and highwalls. 17 portals were found along the highwall bench. Three impoundments of approximately 70,000 sq.ft. had water flowing at 300 gpm with a pH value of 3.1 and iron >10 mgl. A 35' to 45' high refuse pile was in the middle of the site as well as scattered refuse throughout the site.

Project Scope

CTL Engineering of West Virginia, Inc. was retained to provide the following design:

- Excavation and wet seal of at least 17 mine portals
- Dewater three impoundments
- 2000 LF of stream reconstruction
- Regrade and cover of coal refuse and spoil areas on mine bench
- Drainage control channels to carry water off site
- Backfill of highwalls using spoil material to original contour
- Conditioning and revegetation of all disturbed areas





Client / Contact

WV DEP-AML&R
601 57th Street
Charleston, WV 25304
Design Completion Date
March 2010
Estimated Project Cost
\$1,500,000

PENINSULA HIGHWALL #1 & #2 DEP 14233

HIGHWALL & SUBSIDENCE RECLAMATION - MINE SEALS



Morgantown, Monongalia County, West Virginia

CTL Professional Services

- Surveying
- Geotechnical
- Civil Site Design
- Construction Documents

Project Background

This site contained 1,800 LF of vertical to sloughed highwalls 15 to 25 feet high, 7 partially of totally collapsed mine portals, 1 open mine portal, subsidence depressions behind the portals and water present at or flowing from the portals.

Project Scope

CTL Engineering of West Virginia, Inc. was retained to provide the following design:

- Access road into the site
- Wet seal 2 portals
- Regrade face of 2 portals
- Riprap channel and additional channel to carry water off site
- Backfill of highwalls and subsidence areas
- Restoration of golf path asphalt
- Conditioning and revegetation of all disturbed areas





Client / Contact

WV DEP-AML&R
601 57th Street
Charleston, WV 25304
Design Completion Date
November 2009
Estimated Construction Cost
\$219,000

CHEAT NECK (LENHART) LANDSLIDE DEP14233

LANDSLIDE, MINE PORTALS & MINE DRAINAGE



Morgantown, Monongalia County West Virginia

CTL Professional Services

- Surveying
- Geotechnical
- Civil Site Design
- Construction Documents

Project Background

Drainage from two collapsed deep mine portals located behind the Lenhart residence created a small landslide. The slide measured about 50' wide and 80' long and the toe was within 20' of the residence and 10' of the LP gas tank.

Project Scope

CTL Engineering of West Virginia, Inc. was retained to provide the following design:

- Regrade and or removal of the slipping material
- Excavation, dewatering and wet seal of each deep mine portal
- Drainage control channels to carry water off site
- Conditioning and revegetation of all disturbed areas





Client / Contact

WV DEP-AML&R 601 57th Street Charleston, WV 25304

Design Completion Date
June 2009

Estimated Construction Cost \$175,000



AML & Relevant Project Experience (2008 – 2013)

REFUSE PILES

- Hopewell Church & AMD, WVDEP
- Ream Refuse Pile, WVDEP
- Williams Refuse Pile, Private
- Harrison Power Plant, Allegheny Power

HIGHWALLS

- Anderson Highwalls, WVDEP
- Peninsula Highwalls, WVDEP
- St. Clair Portals, WVDEP
- Collins Mining, ODNR
- Miller Mining, ODNR

OPEN PITS

- Shinn's Run Portals, WVDEP
- Jones Trucking, ODNR
- General Clay #1 & #2, ODNR

OPEN MINE SHAFTS

- Kennel Mine Closure, MDE, AMLD
- Frostburg North Closure, MDE, AMLD
- Zilman Closure, MDE, AMLD



MINE SUBSIDENCE

- Fairmont Subsidence, WV DEP
- Lower Consol Road MDE, AMLD
- Terra Haute Airport, IN AML
- Farmington UMC, WV DEP Emergency
- Morningside Baptist, WV DEP Emergency
- Eccles Subsidence, WV DEP
- McArthur Subsidence, WV DEP
- Mark Kempner, NJ Private
- WV BRIM
- OMSIUA

MINE DRAINAGE/STREAM RESTORATION

- St. Clair Portals, WV DEP
- Aarons Run, MDE, AMLD
- Deckers Creek, WVDEP

LANDSLIDES

- Douglas Avenue Landslide, MDE, AMLD
- Schramm Landslide, MDE, AMLD
- Gordon Landslide, MDE, AMLD
- East Franklin Landslide, MDE, AMLD
- Cheat Neck Landslide, WV DEP
- McCourt Landslide, ODNR
- Caldonia Hill Slope Stability, MDE, AMLD



WATER SUPPLY REPLACEMENT

- Douglas Avenue Stormwater System Repair, MDE, AMLD
- Bald Knob & Potomas Hollow Water Invsetigations, MDE, AMLD
- Pee Wee Hill Supply Design, MDE, AMLD
- Pee Wee Will Water Feasibility Study, MDE, AMLD
- Fairview Water Feasibility, WV DEP
- Tioga Water Feasibility, WV DEP





www.ctleng.com

Professional Services

Analytical Chemistry

- Organics
- Metals
- Liquid and Solid Fuels
- Soil and Water
- Oils and Sludge
- Solid & Hazardous Wastes
- Construction Materials

Computer Technology

- **Drafting Services**
 - AutoCad
 - Digitizing
 - Microstation
- Software Development
 - Internet & Intranet
 - Application Software

Construction Administration

- **ODOT LPA Projects**
- County & Municipal **Projects**
- Daily On-Site Inspections
- Owner's Representative

Construction Monitoring

- Floor Flatness
- Soils, Concrete, Asphalt, Masonry, Fireproofing, and Steel
- Earth and Concrete Dams
- Pavement for Streets and Airports
- Pre and Post Construction Inspection
- Embankments, Fill, and

Environmental

- Phase I & II ESAs
- RCRA Closure & Site Remediation
- Asbestos/Lead/Mold Surveys
- Abatement Design/
- Monitoring Wetlands Delineation, Permitting & Mitigation
- **Endangered Species/ Ecological Surveys**
- Stormwater Management
- Water Resource Engineering
- Underground Storage Tank
- Management per BUSTR Hydrogeologic Studies & Aquifer Characterization

Existing Structure Evaluation

- Delamination Determination
- Bridges/Buildings
- Sonic Velocity Testing
- Half Cell Potential Tests

Forensic Science

- **Roofing Failures**
- **Building Failures**

- Legal Testimony
- **Product Liability**

Investigations

- Landslide, Soil and Foundation Failures
- Accident Reconstruction

Geotechnical

- Site Selection
- Pavement Design (including CBR Study)
- Foundation Analysis & Design
- **Embankment & Earth** Dam Analysis
- Slope Stability Analysis
- Subsurface Exploration -**Drilling Services**

Ground Penetrating Radar

- Concrete Inspection & Evaluation
- **Bridge Inspection**
- Utility Detection & Mapping

Materials Testing

- Concrete
- Aggregates
- Soils and Rock
- Clay and Masonry **Products**
- **Bituminous Materials**
- Petrographic Studies
- Concrete & Asphalt Mix Designs

Metallurgy

- Metallography
- Failure Analysis
- Fracture Analysis
- Corrosion Studies
- Tensile and Hardness Application
- Recommendations

Mining Engineering

- Mine Plan Design Permit Preparation
- Refuse Disposal Design
- Mine Reclamation Design
- Environmental Monitoring
- Subsidence Investigations
- Drainage Control Structures

Nondestructive Testing & Inspection

- Level II Services
- **Ultrasonic Inspections**
- Liquid Penetrant Inspection
- Magnetic Particle Inspection

Pavement Management

- Budgeting
- Prioritization

- **Deterioration Rates**
- Condition Assessment
- Maintenance & Rehabilitation Strategies
- Network Needs & Long Range Goals

Product Testing

- Calibration
- Design Analysis
- Safety Evaluation
- **Hydrostatic Testing**
- Mechanical and Physical **Property Testing**
- Load and Strength Testing

Roofing Engineering & **Building Envelope Services**

- Infrared & Nuclear Testing
- Air/Water Infiltration
- Quality Control
- **Roof Surveys Evaluation**
- Design & Construction Administration

Roof Management System

- Budgeting
- Prioritization
- **Deterioration Rates**
- Condition Assessment
- Maintenance & Rehabilitation Strategies

Security & Safety Systems

- Design
- Construction
- Paging Systems
- Video Surveillance Intrusion Detection
- Card Access Control
- **Audio Visual Solutions**
- Digital Video Recording

Site/Civil Engineering

- Commercial Land Development
- Infrastructure Planning Residential/Community Planning

Surveying & Mapping

- Topographic Mapping Development
- Property Surveying &
- **Boundary Determination** Global Positioning System

Telecommunication Services

- Design
- Construction
- **Existing Structure Analysis**
- and Maintenance **Lighting Systems**
- Inventory and Warehousing

Office Locations

2860 Fisher Road Columbus, OH 43204 Phone: (614) 276-8123 Fax: (614) 276-6377

4343 Saguaro Trail Indianapolis, IN 46268 Phone: (317) 295-8650 Fax: (317) 295-8395

3085 Interstate Parkway Brunswick, OH 44212 Phone: (330) 220-8900 Fax: (330) 220-8944

3902 New Vision Drive Fort Wayne, IN 46845 Phone: (260) 482-4503 Fax: (260) 482-2002

633 High Street Minford, OH 45653 Phone: (740) 820-8355 Fax: (740) 820-5698

510 C Street So. Charleston, WV 25303 Phone: (304) 746-1140 Fax: (304) 746-1143

102 Commerce Dr. Wapakoneta, OH 45895 Phone: (419) 738-1447 Fax: (419) 738-7670

733 Fairmont Road Morgantown, WV 26501 Phone: (304) 292-1135 Fax: (304) 296-9302

2105 Schappelle Lane Cincinnati, OH 45240 Phone: (513) 722-8665 Fax: (513) 834-6650

Sachina Engineering 407 "B" Block SNS Arcade, Airport Rd Bangalore, India 560017 011-91-80-526-8615

Welding & Quality Control

- QA/QC Programs
- Certified Welding
- Inspection Welding/Brazing
- Qualification Procedure Development



Site/Civil Engineering



CTL Engineering's in-house staff provides a full array of services, with support from our Site/Civil Department, including mapping and surveying services.

From a Raw Piece of Property --CTL Engineering Provides Full Site Layout Design.

- Topographic Mapping Development
- Global Positioning Systems (GPS) Services
- Aerial Mapping Layout & Control
- Construction Layout
- Wetlands Delineation / Flood Plain Determination & Certification
- Property Survey & Boundary Determination
- Micrometer Leveling

Services Include:

- Commercial Land Development
- Residential / Community Planning
- Infrastructure Planning & Design
- · Pavement Design and Management
- Conceptual Designs / Presentations
- · Recreational Resort / Facility Planning
- Erosion & Sediment Control Design
- Storm Water Management Systems
- Preliminary Cost Estimates / Feasibility Analyses



Surveying & Mapping





CTL Engineering maintains a full service, in-house survey and mapping team, which has extensive experience in performing most common surveying needs.

CTL Engineering has the professional staff and the latest equipment to support (3) full survey crews, including a Global Positioning System (GPS), which gives us an added dimension to our surveying and mapping capabilities.

We have performed surveying and mapping on many of our civil/site projects and have supplied construction stakeout and monitoring for many of our clients.

Professional Services:

- Property Surveying and Boundary Determination
- Topographic Mapping Development
- Aerial Mapping Layout and Control
- Global Positioning System (GPS)
- · Construction Layout
- · Settlement Plate Monitoring
- · Micrometer Leveling
- Flood Plain Determination and Certification
- Wetland Delineations

Project Synopsis:

- Residential Subdivision Layout
- · Commercial Development Layout
- Access Road and Parking Lot Layout
- Bridge Construction Layout and Monitoring
- Elevation Certificates (FEMA)
- Property Survey Projects
- Storm Water Surveillance Mapping
- Water Body Sounding Studies



Geotechnical Services



CTL Engineering's Geotechnical Department routinely performs subsurface investigations and soil and rock testing. We prepare engineering reports, make recommendations regarding foundation and construction techniques, and perform other geotechnical services, as dictated by a given project.

Drilling Services

CTL Engineering owns and operates its own fleet of drill rigs. Our rigs are capable of Hollow Stem Augering, Rotary Core drilling and Direct Push Sampling. CTL is able to perform in house energy transfer calibrations on all of its automatic drive hammers. In fact, CTL calibrates many of our competitors' drive hammers as well.

CTL has continuously owned and operated drilling equipment since the 1970's. We have the equipment and experience to perform just about any geotechnical or environmental drilling project you may have.

Analytical Laboratory

Our soils laboratory has been accredited by AMRL since 1999. The lab has consolidometers, triaxial and direct shear apparata, permeability devices, soil compaction, soils classification equipment, and other laboratory testing equipment. We routinely perform testing on undisturbed as well as remolded soil samples. We also provide strength and durability testing services on rock samples.

Geotechnical Services:

- Complete Subsurface Exploration Study
- Foundation Analysis
- Pile, Pier, and Caisson Analysis & Inspection
- Embankment & Earth Dam Analysis
- Slope Stability Analysis
- Settlement Analysis
- Pavement Design
- Rock & Mineral Testing
- Hydrogeologic Studies
- Field and Laboratory Testing of Soils and Rock
- Legal Testimony
- Dynamic Pile Testing

CTL Engineering routinely provides subsurface investigations on the following:

- Roads and Bridges
- Airport Terminals, Runways, and Taxiways
- Water/Wastewater Treatment Facilities
- Hospitals, Parking Garages, Higher Education, and PK-12 School Buildings
- Energy Facilities
- Telecommunication Towers
- Commercial, Retail, and Industrial Facilities



Drilling in Rugged Terrain



Drilling on Flat Terrain

Mining Engineering Services





CTL Engineering has experienced engineers, geologists, and mining technicians to provide the expertise to insure successful mining operations. We provide abandoned mine land reclamation design and project management, mine subsidence evaluations and remediation plans, hydraulic and hydrology studies, hydrogeologic evaluations, mine permitting, preblast surveys, pre and post mining surveys, and coal reserve studies.

The CTL Mining Engineering Group coordinates with our drilling services and various testing departments to provide a full scope of services to the mining industry. Our laboratories are certified to perform the water and overburden analysis prescribed by federal regulatory programs.

CTL Engineering provides drainage control structure design to comply with the regulatory requirements for controlling and treating site damage. Exploration equipment and remote video camera monitoring are used by CTL Engineering to prepare accurate maps for reclamation, subsidence stabilization measures, and mine closures.

We have experienced mechanical and metallurgical engineers on staff to provide mine equipment evaluation and consultation services. CTL Engineering is a proven source for accurate and dependable technical information.

CTL Engineering Mining Services Include:

- Subsidence Investigations and Stabilization Designs
- **Abandoned Mine Reclamation** Design
- **Permit Preparation**
- Mine Design Plans
- Refuse Disposal Plans
- **Environmental Monitoring**
- Coal, Water, and Overburden **Analysis**
- Drainage Control Structure Design
- Failure Analysis
- **Legal Testimony**
- Passive Treatment System Design



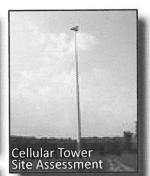




Environmental Services











CTL has been providing Environmental Services since 1987 and has successfully completed over 7,100 projects of varying complexities for diversified clients, e.g., Governmental agencies, Universities, Private Banks, Developers, Communication Tower, Pipe-line and Oil & Gas Exploration Companies, etc. Our years of experience have made us aware of the regulatory and technical challenges our clients face when environmental issues arise.

Our clients have come to appreciate our ability to balance regulatory requirements while maintaining projects' feasibility and continuity. With multiple office locations and a knowledgeable staff of geologists, environmental scientists/engineers, wetland scientists, industrial hygienist, and certified HazMat professionals, we can provide a diverse range of environmental services to our local and regional clients. Whether our clients need a Phase I ESA or a full-scale remediation project, CTL's Environmental Department is the single source for your environmental needs.

Other Environmental Related Services:

Real Estate Related Services

- · Phase I and II ESA's
- Transaction Screenings
- FCC/NEPA Section 106 Reviews

Building Evaluation Services

- **Asbestos Hazard Evaluations**
- Asbestos Abatement Design/Monitoring
- Lead-Based Paint Surveys
- Indoor Air Quality Assessments
- Mold Testing and Remediation

Ecological Services

- Stream, Wetlands & Jurisdictional Waters of the U.S. - Assessment & Delineation
- 404/401 Wetland Permitting
- Wetland/Stream Mitigation and Monitoring
- Threatened & Endangered Species Habitat Research and Surveys

Underground Storage Tank Services

- UST Removal & Closure
- BUSTR Tiers 1, 2 & 3 Evaluations
- Remedial Investigations and Corrective Actions

Hydrogeologic Services

- Soil Borings & Subsurface Evaluations
- Ground Water Investigations
- Monitoring Well Installation
- Soil & Ground Water Remediation
- Groundwater Mapping/ Modeling
- Storm Water Pollution Prevention Plans (SWPPP) Preparation, Design, and Inspections

Permitting/Compliance

- NPDES Permitting Support
- Solid-Waste Landfill Permitting
- Permit to Install/Operate (PTI & PTO)
- Compliance with Permit Conditions

Waste Management Services

- Hazardous & Non-Hazardous Waste Characterization and Disposal
- Spill/ Discharge Response Plans
- Effluent Sampling & Analysis
- RCRA Planning and Closure
- Spill Prevention Control & Countermeasure Plans (SPCC)

Geophysical Surveys

- Ground Penetrating Radar (GPR) survey to detect utilities and orphan USTs.
- Resistivity Testing of soil for grounding system designs.

Transportation Related Services

- · Environmental Screening
- CE Documentation Preparation
- **BUSTR Site Assessment**
- **Ecological Investigations**



Materials Testing



CTL Engineering is a leader in providing analytical services to the construction industry. We maintain a staff of experienced personnel and accurate equipment to guarantee dependable results. We evaluate all types of construction materials. Additionally, CTL Engineering can prepare and test Portland cement and bituminous concrete mixes for optimization studies to insure the proper mix design for specific jobs.

CTL Engineering offers petrographic examination of construction materials. These specialized microscopic evaluations allow us to closely evaluate concrete quality and determine the causes and extent of failures in concrete, in addition to potential future performance.

In addition to the standard ASTM tests of strength, absorption, dimensions unit weights, etc., CTL Engineering provides several specialty tests on concrete block and brick, including the fire rating test, specified by the BOCA, and efflorescence testing required by many architectural firms.

CTL Engineering also provides complete and thorough analysis of clay products.

We provide complete testing of the following:

Aggregates

- Component Analysis (sand, gravel, lime stone) – Department of Transportation
- Filter Sand Environmental Protection Agency (EPA)
- Railroad Ballast American Railroad Engineering Association
- Rip-Rap U.S. Soil Conservation Service

Soils

- Classification
- Compaction Parameters
- Permeability Tests

Concrete

- Mix Designs
- Mix Verification Tests to verify strength, air content, consistency, and yield of concrete
- Compression Tests
- Flexural and Split Tensile Strength Tests
- Modulus of Elasticity
- Creep Testing

Asphalts

- Mix Designs
- Nuclear Gauge Calibrations Extraction and Grading
- · Core Testing for Density and Strength

Clay-brick, Pipe & Tile

- Compressive Strength
- Absorption
- Freeze-thaw
- Efflorescence
- · Dimensional Analysis
- Acid resistance

In addition to the standard tests that are required by specification, we perform specific tests on construction materials as dictated by the needs of the customer.

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Construction Services: Structural Tests and Special Inspections

ENGINEERING 2



CTL has a solid working knowledge of the Ohio Building Code with respect to Chapter 17, Structural Tests and Special Inspections. We routinely perform these services on many building construction projects. We also communicate regularly with key officials of the Division of Industrial Compliance, Board of Building Standards and Bureau of Building Code Compliance regarding the specific implementation and enforcement requirements of the Code.

A project's construction phase requires reliable testing and inspection services. Building owners, architects, engineers, and contractors choose CTL Engineering for this work, knowing that we are accurate, dependable, and perform our services in a timely manner.

CTL Engineering examines existing structures to evaluate potential problems. Failed structures are analyzed to determine the cause and extent of damage. We evaluate structural integrity during initial construction and at regular intervals after completion. CTL Engineering routinely evaluates metal and concrete pipes.

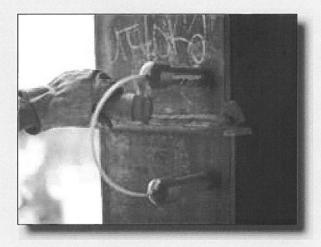
We perform audio/video surveys, sonic velocity testing, x-ray examinations, half-cell potential, and other destructive and nondestructive tests.

CTL Engineering provides testing and inspection of the following:

- Sitework
- Foundations
- · Air Barrier Testing
- Reinforced Concrete
- Structural Steel
- Masonry
- Sprayed-on Fire Proofing
- Roofing Systems
- Single & Multi-Story Building Structures
- Bituminous & Portland Cement Concrete Paving
- Highway and Airport Pavements
- · Parking Garages & Bridges
- Water & Wastewater Treatment Facilities & Associated Piping Systems

CTL Engineering's technicians maintain the following certifications and/or training:

- ACI (American Concrete Institute) Level I
- NICET Certification, Level I, II, III or IV
- Hazardous Materials Certification
- Confined Space Entry Training
- Radiation Safety Training
- WVDOT, ODOT, and NCDOT Certification





Firm's Equipment

Geotechnical Equipment

CTL Engineering Inc.'s subsurface exploration equipment is adaptable for use of barges or all terrain vehicles (ATV's). CTL can mobilize special equipment or a fleet of drilling rigs to a particular project requiring multiple units. CTL Engineering owns and operates ten (10) drill rigs with a capacity of drilling to a depth of 300 feet. Other equipment includes large diameter soil and rock core sampling equipment, in-situ pressure meters and cone penetrometers.

CTL's drill rigs are rotary drilling rigs equipped to conduct standard split-spoon sampling with the use of hollow-stem augering, casing advancer or mud rotary. The rigs are also equipped with Moyno pumps, wire-line or standard coring equipment for proper and efficient execution of a subsurface investigation program

For field and laboratory materials analysis, CTL is equipped to conduct pressure meter tests, vane shear tests and cone penetrometers tests in the field. The laboratory is equipped with consolidometers, triaxal and direct shear apparata, permeability devices and normal soils classification equipment.



CTL owns and operates a fleet of ten (10) drill rigs



CTL's ATV can drill in rough terrain

Chemistry Laboratory

The chemistry laboratory at CTL is equipped with Atomic Absorption equipment, spectrophotometers and gas chromatography equipment. CTL has the capability of and regularly performs both non-hazardous and hazardous waste tests.



CTL has established a quality control/ quality assurance plan, which is based on The American Council of Independent Laboratory Standards. CTL carries professional liability insurance coverage with a limit of \$1,000,00 per occurrence and aggregate.

Computer Resources

Operating efficiency may mean the difference between successful project completion and job overruns. At CTL Engineering, Inc., we effectively utilize computer software programs to assist in project and account management, resource allocation, data transfer, and preparation of plans and specifications. CTL's use of innovative technology sets us apart from the competition.

CADD Capabilities

Project designs and specifications are produced in our Computer Aided Drafting and Design (CADD) section using all releases of ACADD, including Release 2013. AutoCAD allows the user to interact with a wide variety of support software to modify project designs or perform different modeling functions. In addition, many public documents or plans are available in digitized form allowing CTL to directly download surveyed land plots or utility drawings. Successful use of CADD-based documents and/or plans has dramatically increased CTL's project efficiency and performance.

Geotechnical Software

CTL's Geotechnical Department utilizes a wide array of computer models to analyze deep foundation design, pavement design, slope stability, hydraulics, and flood hazard evaluation. Our experienced engineers use the following software to develop solutions:

AASHTO - Rigid and Flexible Pavement Design

APILE - Calculation of Load-Settlement

COYLE - Analysis of Axially Loaded Piles

DSS - Dimension Solution Software

ELSYM5 - Elastic Layered System Pavement Design and Analysis

GINT - Boring Logs & Lab Testing

HY8 - Culvert Analysis

HY9 - Bridge Scour Analysis

HWY - Asphalt Institute Pavement Design

LPILE - Analysis of Laterally Loaded Piles

NEWNEG - Analysis of Piles Subjected to Negative Skin Friction

RETWALL - Design of Cantilever and Gravity Retaining Walls

SCHMERT - Analysis of Shallow Foundations in Sand

SHAFT - Analysis of Drilled Shafts (Caissons)

STABL6 - Slope Stability Analysis

WEAP - Pile Driving Analysis

WSPRO - Water-surface Profile Computation Model



Civil Engineering Software

Eagle Point Watershed Modeling & Water Surface Profiling DCA Civil Engineering Design Software Civilsoft Groundwater for Windows TR-55 Swamp HEC 1 and 2 Survey 3.0

Hydrogeologic Studies

The backbone of many hydrogeologic studies is the determination of ground water properties, flow direction, and effects of local ground water pumping or injection. CTL is experienced in utilizing a wide variety of computer models to predict various properties of ground water and ground water flow to include:

MODFLOW - USGS Finite element ground water model MODPATH - USGS Particle tracker package for MODFLOW SURFER - Data contouring package CAPZONE - Semi-analytical ground water mode GWPATH - Flowpath tracker for ground water models SLUGIX - Slug test analysis software WHPA - Wellhead Protection area delineation

Remediation Models

CTL uses the latest in remediation technologies and computer models when preparing conceptual and full-scale remediation system designs. Today's programs allow our engineers to calculate engineering parameters (e.g., stripper efficiency, total dynamic head, air emissions, etc.) in minutes instead of several hours. This allows us to evaluate multiple technology applications operating at varying parameters. Some of the models CTL uses include:

ShallowTray - low profile aerator evaluation program
Stat - low profile aerator design
HyperVentilate - soil vapor extraction emission model
SoilVent - soil vapor extraction design model
Gast Blower Selection Program



Telemetry

CTL employees are experienced with a variety of remote data acquisition devices. These systems allow us to interface with the remediation systems and remotely operate, collect data, and troubleshoot potential operating problems. Auto dialers alert employees in the event of an emergency. Remote monitoring of the system minimizes system down time and ultimately saves the project money. CTL employees are experienced with:

Telmax II RealFlex SiteLink SiteWindows

Accounting Software

CTL uses Wind2 accounting software for all of the services we provide. The project manager first constructs a budget from the information developed in the site-specific proposal. Critical pathways of construction are identified and individual tasks developed for implementing the proposed work. A project number is assigned and costs tracked to each phase, task, or subtask of the project. Monthly billing review reports are provided to the managers to control and assess the progress of the project.

General

CTL Engineering Inc. utilizes:

Windows based operating systems

Microsoft Office 2007 is used for word processing, spreadsheets creation, data processing, and presentation creation.

Alternative software including Corel Suite is available, if necessary.



WES	r virgini	A DEPARTMENT	ENVIRONMENTAL PRO	TECTION	
	CONSULTAI	NT CONFIDENTIA	QUALIFICATION QUES	TIONNAIR	E "Attachmen 3"
PROJECT NAME Crany Mine Dump, Wyoming County, WV		DATE (DAY, MONTH 02/01/2014	H, YEAR)	FEIN 55-063-18	34
1. FIRM NAME CTL Engineering of West Virginia,	Inc.	2. HOME OFFICE F 2860 Fisher Road Columbus, OH 43			FIRM NAME Testing Laboratories
4. HOME OFFICE TELEPHONE	5. ESTABL CTL-1927	ISHED (YEAR)	6. TYPE OWNERSHIP Individual Corpora		6a. WV REGISTERED DBE (Disadvantaged Business
(614)276-8123	CTL-1927	CTL-WV 1983	Partnership Joint-V	enture	Enterprise) YES NO
6. PRIMARY AML DESIGN OFFICE: ADDR 733 Fairmont Road, Morgantown, WV 7. NAMES OF PRINCIPAL OFFICERS OR Patrick E. Gallagher, President CK Satyapriya, VP/Sec.	26501/ 30	04-292-1135/ Patr		PHONE NUME	gantown - 9 BER - OTHER PRINCIPALS
9. PERSONNEL BY DISCIPLINE					
5 ADMINISTRATIVE - ARCHITECTS 1 BIOLOGIST 7 CADD DESIGNERS - CHEMICAL ENGINEERS 4 CIVIL ENGINEERS 9 CONSTRUCTION INSPECTORS - DESIGNERS - DRAFTSMEN	3 ENVIRO	ISTS ICAL ENGINEERS NMENTALISTS TORS ISTS/GEOTECH ENG. IANS	- LANDSCAPE ARCHIT - MECHANICAL ENGINERS - MINING ENGINEERS - PHOTOGRAMMETRIST - PLANNERS: URBAN, 1 SANITARY ENGINEERS 1 SOILS ENGINEERS - SPECIFICATION WE	NEERS S S YREGIONAL ERS	1 STRUCTURAL ENGINEERS 10 SURVEYORS/RODMEN - TRAFFIC ENGINEERS X OTHER, 3 Geotechnical Drillers
DRAFISMEN					47 TOTAL PERSONNEL
TOTAL NUMBER OF WV REGISTERS *RPEs other than Civil and N supervise and perform this	ining must	provide support		ualifies	them to
The TOTAL PERSONNEL number is for	CTL Engine	eering of West Vi	rginia, Inc.		
TOTAL PERSONNEL for CTL Engineering	ng, Inc. is	225, which incl	udes CTL Engineering of	West Virg	inia.

□ NO

10. HAS THIS JOINT-VENTURE WORKED TOGETHER BEFORE?

YES

11. OUTSIDE KEY CONSULTANTS/SUB-CONSULTANTS Quest nnaire" for each if copy is not	ANTICIPATED TO BE USED. Attach "AML Conson file with AMI	ultant Confidential Qualification
NAME AND DDRESS:	SPECIALTY:	WORKED WITH BEFORE
		Yes
		No
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		Yes
		No

Are your firm's personnel experienced in Abando Mine Lands Remediation/Mine Reclamation Engineer YES Description and Number of Projects: CTL Engineering has completed more than 800 AML related projects nationally and internationally. See attached "AML Past Project Experience" for some specific examples. NO Is your firm experienced in Soil Analysis? В. Description and Number of Projects: Our in-house laboratories perform all ASTM mechanical, organic and in-organic analyses for soils. Our labs are certified by WVDOH, OEPA and US Corps of Engineers. NO Is your firm experienced in hydrology and hydraulics? YES Description and Number of Projects: Each of our site design and AML projects require hydrology & hydraulic evaluations. We estimate that annually, we complete more than 100 projects requiring hydrology design. NO D. Does your firm produce its own Aerial Photography and Develop Contour Mapping? Description and Number of Projects: However, we annually complete more than 25 projects requiring aerial photography & mapping. While we sub-contract the aerial photography, in-house we provide GPS, surveying and develop the contouring as needed. Is your firm experienced in domestic waterline design? (Include any experience your firm has in Ε. evaluation of aguifer degradation as a result of mining.) YES Description and Number of Projects: We have completed numerous waterline design projects and our in-house staff has more than 25 years of combined experience with aguifer degradation. NO Is your firm experienced in Acid Mine Drainage Evaluation and Abatement Design? F. Description and Number of Projects: CTL has developed more than 20 active and passive treatment YES systems for AMD. More than 50 of our AML Design projects required some form of AMD evaluation and design. NO

13. PERSON	IAL HISTORY STATEMENT OF PRINCI	PALS AND ASSOCIATES RESPONSIBI	LE FOR AML PROJECT DESIGN (Fur	rnish complete
data	't keep to essentials)			
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	Project Manager	36	EXPERIENCE: 36	WATERLINE DESIGN
/	,			EXPERIENCE: 29
				Entraction.
Brief Expl	anation of Responsibilities			
President	of CTL Engineering of WV,	Inc.; responsible for the o	verall administration of the	e Morgantown, WV office
along with	n the management of the indiv	vidual engineering projects.	His administration and man	agement responsibilities
include ma	rketing, proposal preparation,	client contact, supervision	of design personnel, schedul	ing, budget control, and
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	nal Society of Soil Mechanics		Certified Professional Geolo	gical Scientist - 1984
American I	nstitute of Professional Geolog	gists	Professional Surveyor, 199	5-West Virginia
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13. PERSON data be name a TIT selfridge, Department Brief Expl Deartment analysis a for 8 land EDUCATION Graduate Sels., 1996 A.S., 1994 A.A.S., 19 MEMBERSHIP Fellow of	LE (Last, First, Middle Int.) Carl G. Head, Geotechnical Services anation of Responsibilities Head Geotechnical Engineering recommendations, program develocation and remediat. (Degree, Year, Specialization) tudies, 1996-1999, Civil Engine, Civil Engineering, Geotechnic, Engineering Science 91, Mechanical Technology - Deservice Deservices IN PROFESSIONAL ORGANIZATIONS the American Society of Civil In	YEARS OF AML DESIGN EXPERIENCE: 4 g. Responsible for subsurface elopment for investigative arion projects in the past 5 years and structural sign & Drafting Engineers, The GEO-Institute,	YEARS OF EXPERIENCE YEARS OF AML RELATED DESIGN EXPERIENCE: 4 e inveatigations, geotechnical databoratory analysis. Selfricars. REGISTRATION (Type, Year, St. Engineering Intern (EI), 199	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: al reporting, foundation dge has been responsible ate) 6, New York
13. PERSON data be name a TIT selfridge, Department Brief Expl Deartment analysis a for 8 land EDUCATION Graduate Sels., 1996 A.S., 1994 A.A.S., 19 MEMBERSHIP Fellow of	LE (Last, First, Middle Int.) Carl G. Head, Geotechnical Services anation of Responsibilities Head Geotechnical Engineering recommendations, program develocation and remediat. (Degree, Year, Specialization) tudies, 1996-1999, Civil Engine, Civil Engineering, Geotechnic, Engineering Science 91, Mechanical Technology - Deservice Deservices IN PROFESSIONAL ORGANIZATIONS the American Society of Civil In	YEARS OF AML DESIGN EXPERIENCE: 4 g. Responsible for subsurface elopment for investigative arion projects in the past 5 years and structural sign & Drafting Engineers, The GEO-Institute,	YEARS OF EXPERIENCE YEARS OF AML RELATED DESIGN EXPERIENCE: 4 e inveatigations, geotechnical databoratory analysis. Selfricars. REGISTRATION (Type, Year, St. Engineering Intern (EI), 199	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: al reporting, foundation dge has been responsible ate) 6, New York

			230
13. PERS L HISTORY STATEMENT OF PRINCIP data .t keep to essentials)	PALS AND ASSOCIATES SPONSIBI	LE FOR AML PROJECT DESIGN (Fur	rnish comple
NAME & TITLE (Last, First, Middle Int.)		YEARS OF EXPERIENCE	
Darrah, Timothy A. Civil Site Dept. Mgr., Project Manager	YEARS OF AML DESIGN EXPERIENCE: 21	YEARS OF AML RELATED DESIGN EXPERIENCE: 21	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE 21
Brief Explanation of Responsibilities Mr. Darrah is presently responsible for reclamation design, commercial and resid client contacts for all surveying proje include drafting, writing of property de of surveying and civil engineering relate HEC-1, HEC-RAS and various other enginee projects for the past 10 years	dential development projects. cts including topographic, prescriptions, hydrology calculated duties. He is also proficies	He is also responsible for s roperty and construction layoutions, quantity calculations ent in computer software inclu	cheduling, invoicing and out. Mr. Darrah's duties and various other forms ading AutoCAD, Civilsoft,
EDUCATION (Degree, Year, Specialization) B.S., 1988, Civil Engineering Technology			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS		REGISTRATION (Type, Year, St	ate)
13. PERSONAL HISTORY STATEMENT OF PRINCIP data but keep to essentials)	PALS AND ASSOCIATES RESPONSIBI	E FOR AML PROJECT DESIGN (Fur	mish complete
NAME & TITLE (Last, First, Middle Int.)		YEARS OF EXPERIENCE	
Stanley, Joseph Project/ Staff Engineer	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE: 7	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 3
Brief Explanation of Responsibilities			
Mr. Stanley is responsible for Reclam Residential Development, Valley Fill Foo Groundwater Inventory. PC Software include Access.He has been involved in the design	otprinting, Surveying, Subsid des Hydrologic TR-20, TR-55, E	ence Surveys, Pre-Blast Surve Excel, Harstad Methods, Word,	eys, Acid Base Accounts,
EDUCATION (Degree, Year, Specialization)			
A.S., 2001 Civil -Engineering Technology	Drafting & Design		
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS		REGISTRATION (Type, Year, Sta	ate)

13. PERSONAL HISTORY STATEMENT OF PRINCE data t keep to essentials)	IPALS AND ASSOCIATES RESPONSIE	BLE FOR AML PROJECT DESIGN (Fu	rnish complete	
NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE			
Foreman, Gregory P.E.	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE: 18	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 18	
Brief Explanation of Responsibilities Mr. Foreman serves as Project Manager a water supply, sanitary design for publi water, sanitary sewer, storm sewer, specifications, plans and engineering cal	ic and private projects. Des pedestrian walkways, vehicul	sign services provided includ	le site grading, potable	
EDUCATION (Degree, Year, Specialization) A.S, Fairmont State, 1989, Drafting & Degree, A.S., Fairmont State, 1989, Mechanical B.S., Fairmont, 1989, Civil Engineering MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS		REGISTRATION (Type, Year, Sta Registered Professional Engin 014165)	ate) neer, 1999, WV (no.	
13. PERSONAL HISTORY STATEMENT OF PRINCIdata but keep to essentials)	IPALS AND ASSOCIATES RESPONSIE	BLE FOR AML PROJECT DESIGN (Fu	rnish complete	
NAME & TITLE (Last, First, Middle Int.)		YEARS OF EXPERIENCE		
Waltz, Charles P.E.	YEARS OF AML DESIGN EXPERIENCE: 9		YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:	

NAME & TITLE (Last, First, Middle Int.)		YEARS OF EXPERIENCE	
Waltz, Charles P.E.	YEARS OF AML DESIGN EXPERIENCE: 9	YEARS OF AML RELATED DESIGN EXPERIENCE: 13	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 0
Brief Explanation of Responsibilities Project Engineer / Staff Engineer pro geotechnical subsurface investigations	viding engineering services fo and foundation recommendations	r a variety of projects inc and road construction.	luding, site development
EDUCATION (Degree, Year, Specialization		· A · · · · · · · · · · · · · · · · · ·	

14. PROVIDE A LIST OF SOFTWARE AND EQUIPMENT AVAILABLE IN THE PRIMARY OFFICE WHICH WILL BE USED TO COMPLETE AML DESIG REVICES.

OFFICE EQUIPMENT

3 HP Color Plotters HP Color Scanner Duplicating equipment, copiers, blueprinting, laser printers, etc. Facsimile Machine

DESIGN SOFTWARE

ArcPAD

Carson Software

Windows XP & 2000 based operating systems

Microsoft Office 2000 & 2002 is used for word processing, spreadsheet creation, data processing, and presentation creation. Alternative software including Corel Suite is available, if necessary Project designs and specifications are produced in our Computer Aided Drafting and Design (CADD) section using all versions of AutoCAD including Release 2013.

Hydrogeologic Studies MODFLO MODPATH SURFER CAPZONE GWPATH SKUGIS PHREEOCI WATEQ4F Groundwater for Windows Civil Engineering Software Civil 3D 2013 (AutoCADD) - 13 Seats Profiling Civilsoft TR-20 & TR-55 SEDCAD HEC 1 & 2 HEC-RAS Arc GIS

Geotechnical
GINT
STABL6
SHAFT
WSPRO
Various Bridge, Pavement, Pile and Foundation Software

SURVEY EQUIPMENT

- 2 Trimble GPS Systems 3-R8 Receivers & 1- R10 Leeiver
- 6 Total Stations (1- Robotic)
- NAK Micrometer Level System & Direct Levels
- 4X4 Vehicles, including ATV for off-road use
- 2-Way Radios

SUBSURFACE INVESTIGATION EQUIPMENT

- 3 CME 75 Drilling Rigs, 4-Wheel Drive Truck Mounted
- 2 CME 75 HD Drilling Rigs, 2-Wheel Drive Truck Mounted
- 1 CME 55 HD Drilling Rig, All-Terrain Mounted
- 1 CME 45 Drill Rig, 2-Wheel Drive Truck Mounted
- 1 CME 45 Drill Rig, 2-Wheel Drive Skid Mounted
- 1 Simco 4000 Track Rig
- 4-Wheel Drive Support Vehicles
- Portable barges for water borne drilling (including supply boats w/outboard motors)
- In-situ permeability apparatus
- Single or double ring field infiltrometers for hydraulic conductivity testing
- Down hole temperature gauges
- Color Borehole Camera with 300 foot range
- Ground Penetrating Radar Undisturbed shelby tube sampling devices
- Standard penetration testing equipment (1", 2", 3" split spoons)
- Settlement probes
- Tripod portable drilling equipment for interior drilling with 7 feet of clearance
- CBR equipment
- Hand Augers
- Solid flight augers 4" O.D.
- Hollow stem augers 33", 43", 63" 83" I.D.
- Rotary drilling capability up to 12" O.D.
- Hydro Punch In-situ groundwater monitoring
- Conventional and wireline coring capabilities (1", 2", 3", & 4")
- Soil-gas survey equipment
- Pump testing equipment
- Decontamination Equipment Steam cleaners, drums, generators, etc.
- Electronic Data Loggers
- Field Sampling equipment for soil, water and groundwater
- Nuclear Densometer Soil Compaction
- PID, FID, CGI and various field monitoring equipment
- Groundwater and Soil Remediation Equipment
- Mobile activated carbon system
- · Air and chemical stripping of soils and water

15. CURR. ACTIVITIES ON WH	HICH YOUR FIRM IS THE DE	SIGNATED GINEER OF RECO	ORD (AML Projects)	
PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESPONSIBILITY	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE
Open Contract to provide engineering design services throughout the State of Ohio (2 year contract 2014-2015))	OH Department of Natural Resources AML Emergency Program 1855 Fountain Square Court, 2nd Floor Columbus, Ohio 43224	Reclamation Design, geotechnical drilling, mine subsidence, slope stability analysis and design, pressure grout stabilization design, risk assessment, acid mine drainage, burning refuse extinguishment and earthwork calculations	\$75,000 /year Fees	
Open Contract to provide engineering support and design services throughout the State of Maryland.(5 year contract- 2015))	MD Department of Environment-AMLD 160 S. Water St. Frostburg, MD 21532	Reclamation Design, geotechnical drilling, mine subsidence, slope stability analysis and design, pressure grout stabilization design, risk assessment, acid mine drainage, burning refuse extinguishment and earthwork calculations	\$500,000 Fees \$15,000,000+ Const.	65%
Hopewell Church Refuse & Drainage (DEP16074), Preston County, WV	WVDEP - AML 601 57 th Street SE Charleston, WV 25304	Draining mine portal remediation design, mine seals, drainage systems, grading design, specifications		Design - Preliminary Review complete. Submittal Dec. 2013
TOTAL NUMBER OF PROJECTS: 4	TOTAL ESTIMATED CONSTRUCTION COSTS: +\$10,000,000			

PROJECT NAME, TYPE AND LOCATION	NATURE OF FIRMS RESPONSIBILITY	NAME AND ADDRESS OF OWNER	ESTIMATED COMPLETION DATE	ESTIMATED CON	STRUCTION COST
		OWNER		ENTIRE PROJECT	YOUR FIRMS RESPONSIBILITY

17 COMPLE WORK WITHIN LAST	' 5 YEARS ON WHICH YOUR FIRM WAS	AE DESIGNATED ENGINEER OF RECORD	(AML Proj	logta)
PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
Peninsula Highwalls, AML Project, Monongalia County, WV	WVDEP- AML 601 57 th Street SE Charleston, WV 25304	\$244,000	2009	YES
St. Clair Portals, AML Project, Monongalia County, WV	WVDEP- AML 601 57 th Street SE Charleston, WV 25304	\$1,462,000	2009	YES
Shinn's Run Portals & AMD, AML Project, Harrison County, WV	WVDEP- AML 601 57 th Street SE Charleston, WV 25304	\$1,887,000	2012	YES
Pee Wee Hill Water Supply, MD AML Project, Garrett County, MD	MD Department of Environment 160 S. Water St. Frostburg, MD 21532	\$650,000	2011	YES
Anderson Highwalls, AML Project, Monongalia County, WV	WVDEP- AML 601 57 th Street SE Charleston, WV 25304	\$1,200,000	2013	YES
Terra Haute Airport, IN AMLD, Subsidence Grouting	Indiana Abandoned Mine Land Division Indianapolis, IN	\$6,500,000	2010	YES
Schramm, Gordon & East Franklin (MD) Landslides	MD Department of Environment-AMLD 160 S. Water St. Frostburg, MD 21532	\$1,500,000	2013	On-going

18. COMPLETED WOR	K WITHIN LAST 5 YEARS ON	WHICH YOUR FIRM HAS BEEN A SUB	-CONSULTA	NT TO OTHER FIR	MS (INDICATE PHASE						
OF K FOR	WHICH YOUR FIRM WAS RESPO	ONSIBLE) (AML Proje)									
PROJECT AME,	NAME AND ADDRESS	ESTIMATED CONST. TION COST	YEAR	CONSTRUCTED	FIRM ASSOCI. JD WITH						
TYPE	OF OWNER	OF YOUR FIRM'S PORTION	OF YOUR FIRM'S PORTION (YES OR NO)								
AND LOCATION	No. 30 (100 100 100 100 100 100 100 100 100 1										
			1								
			1								
		4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4									
			1								
ë.											
				27							
19. Use this space	to provide any additiona	al information or description o	f resourc	es supporting v	our firm's						
		West Virginia Abandoned Mine L									
		fully designed more than 200 AM			ked nationally and						
internationall	v on a variety of AML pro	oblem sites. We have developed	unique s	olutions that h	ave been applied to site						
		dence Abatement, Mine Fires and									
		stabilization and extinguishme									
20. The foregoing	is a spatement of facts.										
Signature:	1//	Title: President		Date: 12/19	/2013_						
Printed Name: Pat	rick E. Gallagher, P.E.				70						

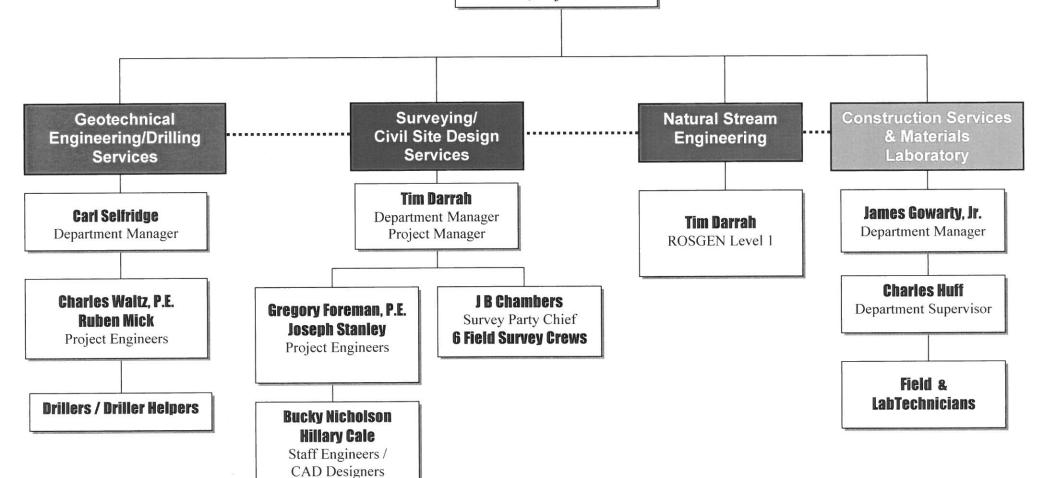
NOTE: THIS DOCUMENT WILL BECOME VOID AFTER DECEMBER 31 IN CALENDAR YEAR OF DATE HEREON.

CTL Engineering of West Virginia, Inc.

PROJECT ORGANIZATION CHART & KEY PERSONNEL



President, Project Executive



PATRICK E. GALLAGHER, P.E., C.P.G.S.

Expertise:

Mr. Gallagher serves as President of CTL Engineering of West Virginia, Inc. Projects successfully completed under Mr. Gallagher's direction include: Civil Site Design, Foundation Design, Storm Water Management, Waste Water Design, Roadway design, Parking Lot Design, Geotechnical Investigations & Design, Site Stability Analyses, Mine Subsidence Evaluations, Failure Investigations and Environmental Investigations and Permitting.

Prior to joining CTL Engineering, Mr. Gallagher was the chief of the Abandoned Mine Reclamation Program for the State of Maryland, Department of Natural Resources, and Bureau of Mines. In addition, he was also responsible for overall engineering/geologic support to the Maryland Bureau of Mines Program.

Education:

B.S., Civil Engineering, 1975 Virginia Polytechnic Institute and State University, Blacksburg, Virginia B.S., Geology, 1975 Virginia Polytechnic Institute and State University, Blacksburg, Virginia

Professional Registration / Certifications:

- Registered Professional Engineer
 - Ohio, #48459; Maryland, #13256; West Virginia, #9297; Pennsylvania, #PE-044930-R;
 Wyoming, #11033; North Carolina, #032503; Kentucky, #24988
- Certified Professional Geological Scientist, #6575
- Professional Surveyor, WV
- Adjunct Professor Civil Engineering Fairmont State College 2001 Present

Career Experience:

CTL Engineering, Inc.- 30 years Other – 7 years

Relevant Project Experience: (Project Profiles Provided)

Mine Related

Project: Morgantown Anderson Highwalls

AML Reclamation Design

Monongalia County, West Virginia

Role: Project Executive Project Year: 2012

Project: Schramm – Gordon – East Franklin Landslides

AML Reclamation

Allegany & Garrett Counties, Maryland

Role: Project Executive Project Year: 2012

Project: Douglas Avenue Stormwater System

Geotechnical/Hydrologic Allegany County, Maryland

Role: Project Executive Project Year: 2012



President

PATRICK E. GALLAGHER, P.E., C.P.G.S.

Project: Fairmont Subsidence

AML Reclamation / Geotechnical Fairmont, Marion County, West Virginia

Role: Project Executive Project Year: 2012

Project: Ottawa State Route2 Mine Subsidence

Geotechnical/ Grouting Plan

Ottawa County, Ohio

Role:

Project Executive Project Year: 2005, 2010, 2012

Project: Douglas Avenue Landslide

AML Reclamation/Geotechnical/Hydrologic

Maryland

Role: Project Executive Project Year: 2012

Project: Lower Consol Road Subsidence

AML Reclamation/Subsurface Mine Investigation/Geotechnical

Maryland

Role: Project Executive Project Year: 2011

Project: Bald Knob Water Supply Study

Hydrologic Maryland

Role: Project Executive Project Year: 2011

Project: Shinns Run Portals

AML Reclamation/Portal Closure/Geotechnical Shinnston, Harrison County, West Virginia

Role: Project Executive Project Year: 2011

Project: Terra Haute Airport

AML Reclamation/Hazardous Waste Disposal/Geotechnical

Role: Project Executive Project Year: 2010

Project: Peninsula Highwalls

AML Reclamation/Hydrology/Geotechnical

West Virginia

Role: Project Executive Project Year: 2009



PATRICK E. GALLAGHER, P.E., C.P.G.S.

Transportation

Project: Emerson Avenue

Slope Stabilization Investigation & Design

Wood County, West Virginia

Role: Project Executive Project Year: 2010

Project: I-81 Martinsburg to Marlowe Interchange

Design Build

Martinsburg, Jefferson County, West Virginia

Role: Project Manager Project Year: 2011

Project: Morgantown Municipal Airport

Geotechnical Services

Morgantown, Monongalia County, West Virginia

Role: Project Executive Project Year: 2007

Primary & Secondary Education

Project: New University High School

Various Services

Morgantown, Monongalia County, West Virginia

Role: Project Executive Project Year: 2006 - 2008

Project: South Jefferson High School

Various Services

Charles Town, Jefferson County, West Virginia

Role: Project Executive Project Year: 2006

Project: Morgantown High School Stadium Renovation

Various Services

Morgantown, Monongalia County, West Virginia

Role: Project Executive Project Year: 2011

Project: Huff Consolidated School

Geotechnical Services

Wyoming County, West Virginia

Role: Project Executive Project Year: 2012



TIMOTHY A. DARRAH

Civil Site and Survey Department Manager

Expertise

Mr. Darrah is presently responsible for department management for civil site design and surveying projects including topographic, property and construction layout. Mr. Darrah also serves as project manager on various types of civil engineering projects including residential and commercial developments, and reclamation design projects. Office work includes site designs, hydrology calculations, quantity calculations, and various other forms of engineering related duties.

Education

B.S. Civil Engineering Technology, 1988 Fairmont State College, Fairmont, West Virginia

Professional Experience

24 Years Experience with CTL Engineering, Inc.

Project Experience

A partial listing of Mr. Darrah's relevant project experience includes: (Project

(Project Profile Provided)

Mine Related

Project: Morgantown (Anderson) Portals and Highwall

AML Reclamation Design

Monongalia County, West Virginia

Role: Project Manager Project Year: 2012

Project: Hopewell Church Refuse & AMD

AML Reclamation

Preston County, West Virginia

Role: Project Manager Project Year: 2013

Project: Fairmont (Jackson Addition) Subsidence Project

AML Reclamation/Subsidence Investigation/Geotechnical

Fairmont, Marion County, West Virginia

Role: Project Manager Project Year: 2012

Project: Shins Run Portals & AMD

AML Reclamation/Geotechnical

Shinnston, Harrison County, West Virginia

Role: Project Manager Project Year: 2011

Project: Ream Refuse Piles

AML Reclamation/Mine Refuse & Fire Abatement

McDowell County, West Virginia



TIMOTHY A. DARRAH

Civil Site and Survey Department Manager

Project: Cheat Neck (Lenhart) Landslide

Hydrologic Evaluation/Geotechnical Monongalia County, West Virginia

Role: Project Manager Project Year: 2008

Project: St. Clair Portals

AML Reclamation/Various Services Monongalia County, West Virginia

Role: Project Manager Project Year: 2008

Project: Morning Star Baptist Church Subsidence

Subsidence Investigation/Mitigation Marion County, West Virginia

Role: Timothy Darrah Project Year: 2009

Project: Farmington United Methodist Church

Subsidence Investigation/Mitigation Farmington, Marion County, West Virginia

Role: Civil Site and Surveying Services Manager

Project Year: 2009

Project: Eccles & MacArthur Subsidence

Subsidence Investigation/Mitigation Beckley, Raleigh County, West Virginia

Role: Project Manager Project Year: 2008

Project: Oakland PSD

Feasibility Study

Hancock County, West Virginia

Role: Civil Site and Surveying Services Manager

Project Year: 2011

Project: Peninsula Highwalls

AML Reclamation/Hydrology/Geotechnical

Monongalia County, West Virginia



JOSEPH STANLEY

Expertise

Mr. Stanley is a Staff Engineer/CAD Designer in the Morgantown, WV office. His responsibilities include assisting in the planning and design of civil site design projects involving land planning and development aspects. He is familiar with various engineering software programs including AutoCad 2004 and AutoCad Land Desktop 2004, which provide support for the planning and design projects.

Education

A.S., Drafting and Design Fairmont State College; Fairmont, West Virginia, 2001

Professional Registrations/ Certifications

Advanced GPS Training Course

Career Experience

14 Years with CTL Engineering Inc.

Relevant Project Experience: (Project Profile Provided)

Mine Related

Project: Fairmont Subsidence

AML Reclamation / Geotechnical Fairmont, Marion County, West Virginia

Role: Project Engineer Project Year: 2012

Project: Morgantown Anderson Highwalls

AML Reclamation Design

Monongalia County, West Virginia

Role: Project Engineer Project Year: 2012

Project: Shinns Run Portals

AML Reclamation/Portal Closure/Geotechnical

Role: Project Engineer Project Year: 2011

Project: Hopewell Church Refuse & AMD

Various Services

Preston County, West Virginia

Role: Project Engineer Project Year: 2013

Project: Eccles and MacArthur Subsidence

Geotechnical

Beckley, Raleigh County, West Virginia

Role: Project Engineer



Staff Engineer

JOSEPH STANLEY

Project Year: 2008

Project: Farmington United Methodist Church

Various Services

Farmington, Marion County, West Virginia

Role: Project Engineer Project Year: 2009

Project: Peninsula Highwalls

AML Reclamation/Hydrology/Geotechnical

Monongalia County, West Virginia

Role: Project Engineer Project Year: 2008

Project: Cheat Neck landslide

Various Services

Monongalia County, West Virginia

Role: Project Engineer Project Year: 2008

Transportation

Project: Dorsey Knob Road Improvements

Surveying Services

Morgantown, Monongalia County, West Virginia

Role: Project Engineer Project Year: 2006

Project: County Road 5/5 Relocation

Surveying/Mapping

Logan, Logan County, West Virginia

Role: Project Engineer Project Year: 2005

Project: Morgantown Airport Alternative Access Road

Geotechnical/Surveying/Mapping

Morgantown, Monongalia County, West Virginia

Role: Project Engineer Project Year: 2008

Project: Charles Point Roadway Cut Evaluation

Geotechnical/Surveying/Mapping

Bridgeport, Harrison County, West Virginia



EXPERTISE:

Mr. Foreman serves as Project Manager and Design Engineer for a multitude of civil site design projects for municipal, commercial and private developers. Design services provided include site grading, potable water, sanitary sewer, storm sewer, pedestrian walkways, vehicular thoroughfares, preparation of permits, project specifications, plans and engineering calculations.

EDUCATION:

B.S., Civil Engineering Technology, 1989 Fairmont State College, Fairmont, West Virginia

A.S., Mechanical Engineering, 1989 Fairmont State College, Fairmont, West Virginia

A.S., Drafting and Design, 1989 Fairmont State College, Fairmont, West Virginia

PROFESSIONAL REGISTRATION / CERTIFICATIONS:

Registered Professional Engineer: West Virginia, 1999, No. 014165

PROFESSIONAL AFFILIATIONS:

- American Society of Civil Engineers
- The GEO-Institute
- Timber Framers Guild
- Construction Institute (ASCE)

CAREER EXPERIENCE:

- CTL Experience 8 years
- Other Engineering 20 years

Project Experience

A partial listing of Mr. Foreman's relevant project experience includes: (Project Profile Provided)

Mine Related

Project: Fairview Feasibility Studies

AML-Feasibility Studies

Fairview, Marion County, West Virginia

Role: Project Manager Project Year: 2009

Project: Craigsville/Tioga Water Well Study

Hydrologic Studies

Nicholas County, West Virginia



Gregory L. Foreman, P.E.

Project Manager - Water Systems

Project: Feasibility Study for Oakland PSD

AML-Feasibility Studies

Hancock County, West Virginia

Role: Project Manager Project Year: 2011

Project: Morgantown (Anderson) Portals and Highwall

AML Reclamation Design

Monongalia County, West Virginia

Role: Project Engineer Project Year: 2012

Water/Wastewater Treatment Plants and Water Tanks

Project: Palisades Place

Sewage Collection, Treatment & Disposal/Various Other Services

Morgantown, West Virginia

Role: Project Manager Project Year: 2006

Project: Fairmont Water Treatment Plant

Various Services

Fairmont, Marion County, West Virginia

Role: Project Engineer Project Year: 2009

Building Development

Project: West Minister Apartments – Phase II

Civil Site Design/Permitting/Geotechnical/Environmental/Surveying

Martinsburg, Jefferson County, West Virginia

Role: Project Manager Project Year: 2012

Project: University Place

Geotechnical/Surveying/Civil Site/Environmental

Morgantown, West Virginia

Role: Project Engineer Project Year: 2012

Project: Canterbury Housing Development

Various Services

Fairmont, Marion County, West Virginia

Role: Project Manager Project Year: 2006

Project: Hornbeck Road Development

Surveying/Stormwater/Testing/Permitting
Morgantown, Monongalia County, West Virginia



Gregory L. Foreman, P.E.

Project Manager - Water Systems

Project: Premier Chevrolet

Site Layout/Design

Morgantown, Monongalia County, West Virginia

Role: Project Engineer Project Year: 2012

Project: Mountain State Blue Cross Blue Shield

Civil Site Design

Parkersburg, Wood County, West Virginia

Role: Project Engineer Project Year: 2007

Other

Project: Bridgeport Burger King

Evaluations

Bridgeport, Harrison County, West Virginia

Role: Project Engineer Project Year: 2013

Project: Preston County High School Evaluation

Sewage Plant Evaluation/Wetland Delineation

Preston County, West Virginia

Role: Project Manager Project Year: 2012

Project: Industrial Avenue Streetscape

Various Services

Morgantown, Monongalia County, West Virginia

Role: Project Engineer Project Year: 2008

Project: Dorsey's Knob

Road Improvements

Morgantown, Monongalia County, West Virginia

Role: Project Engineer Project Year: 2006

Project: Boyers Avenue

Demolition Plan

Morgantown, Monongalia County, West Virginia



CARL G. SELFRIDGE

Geotechnical & Drilling Services

Manager

Expertise

Annually manages 100+ various geotechnical projects including; education, transportation, commercial development and a variety of public and private clients. Mr. Selfridge is responsible for directing all aspects of the Geotechnical Engineering Department for CTL Engineering of West Virginia, Inc. This includes the management of field drilling activities, field classification of soil and rock, field and laboratory safety procedures, the assignment of a laboratory testing program, and performing geotechnical evaluations. Engineering evaluations include foundation recommendations, settlement analysis, slope stability analysis, earth pressure coefficients and report preparation.

Education

A.A.S., Mechanical Technology - Design & Drafting, 1991 Adirondack Community College; Queensbury, NY

A.S., Engineering Science, 1994 Adirondack Community College; Queensbury, NY

B.S., Civil Engineering (Geotechnical & Structural), 1996 Rensselaer Polytechnic Institute; Troy, NY

Graduate Studies, Civil Engineering (Geotechnical), 1996-1999 Rensselaer Polytechnic Institute; Troy, NY

Registrations / Certifications

- Engineer Intern (EI): New York, 1996
- Pennsylvania Dept of Transportation Level II Drilling Inspector, 1999

Career Experience

CTL Experience – 5 years Other Engineering – 8 years

Project Experience

A partial listing of Mr. Selfridge's relevant project experience includes: (Project Profile Provided)

Mine & Landfill Related

<u>Project:</u> Eccles & MacArthur Subsidence Subsidence Investigation/Mitigation

Beckley, Raleigh County, West Virginia

Role: Geotechnical & Drilling Services Manager

Project Year: 2008



CARL G. SELFRIDGE

Geotechnical & Drilling Services

Manager

Project: Shinns Run Portals & AMD

AML Reclamation/Geotechnical Harrison County, West Virginia

Role: Geotechnical & Drilling Services Manager

Project Year: 2011

Project: Tunnel Ridge Slurry Cell A

Piezometer Installations - Geotechnical

Ohio County, West Virginia

Role: Project Manager Project Year: 2011

Project: Pine Creek / Omar Landfill

Geotechnical

Logan County, West Virginia

Role: Geotechnical & Drilling Services Manager

Project Year: 2007

Project: Marion County Land Fill

Geotechnical

Marion County, West Virginia

Role: Geotechnical & Drilling Services Manager

Project Year: 2007

Project: Wheeling Landfill

Geotechnical

Wheeling, Ohio County West Virginia

Role: Geotechnical & Drilling Services Manager

Project Year: 2007

Project: Mingo County Landfill

Geotechnical

Mingo County, West Virginia

Role: Geotechnical & Drilling Services Manager

Project Year: 2007

Project: South Charleston Landfill

Geotechnical

South Charleston, West Virginia

Role: Geotechnical & Drilling Services Manager

Project Year: 2007

Project: Buzzard Pond Dam

Geotechnical

Marshall County, West Virginia



CARL G. SELFRIDGE

Geotechnical & Drilling Services

Manager

Transportation

Project: Benedum Airport Lighting Towers

Geotechnical

Bridgeport, Harrison County, West Virginia

Role: Project Manager Project Year: 2012

Project: I-81 Martinsburg to Marlowe Interchange

Design Build

Martinsburg, Jefferson County, West Virginia

Role: Project Engineer Project Year: 2011

Project: Hughes Creek Landslide

Geotechnical

Kanawha County, West Virginia

Role: Project Manager Project Year: 2011

Project: Dick Henderson Bridge

Geotechnical

Kanawha County, West Virginia

Role: Geotechnical & Drilling Services Manager

Project Year: 2010

Project: Morgantown Airport Alternative Access Road

Geotechnical

Morgantown, Monongalia County, West Virginia

Role: Geotechnical & Drilling Services Manager

Project Year: 2008

Project: Leon Bridge

Geotechnical

Mason County, West Virginia

Role: Project Manager Project Year: 2009

Project: Morgantown Rest Area

Geotechnical Evaluation

Morgantown, Monongalia County, West Virginia

Role: Geotechnical & Drilling Services Manager

Project Year: 2008

Project: Veterans Memorial Bridge

Geotechnical

Hancock, West Virginia

Role: Geotechnical & Drilling Services Manager

Project Year: 2008



Geotechnical Project Manager

CHARLES T. WALTZ, P.E.

Expertise:

Mr. Waltz serves as a Project Manager in the Geotechnical Engineering Services Department of CTL Engineering of West Virginia, Inc. Waltz also serves as Project Manager/Engineeer for all of the WV BRIM Projects.

Prior to joining CTL, Mr. Waltz was with Triad Engineering where he was Staff Engineer/Project Engineer and provided engineering services to a variety of projects, including site development, geotechnical subsurface investigations, and road construction. The majority of these projects were performed in West Virginia where concerns for mine subsidence and slope stability were routinely investigated.

Education:

B.A., Business Administration Fairmont State University

B.S., Engineering Fairmont State University

Graduate Studies, Geotechnical Engineering West Virginia University

Professional Registration / Certifications:

Registered Professional Engineer

West Virginia, # 17626; Virginia, # 37038

CTL Experience:

3 Years

Project Experience

A partial listing of Mr. Waltz's relevant project experience includes:

Subsidence Related

Project: Windsor Heights Subsidence Claim

Geotechnical

Windsor Heights, Brooke County, West Virginia

Role: Project Manager Project Year: 2011

Project: Shinnston Subsidence Claim

Geotechnical

Shinnston, Harrison County, West Virginia

Role: Project Manager Project Year: 2011

Project: Metz Subsidence Claim

Geotechnical

Metz, Marion County, West Virginia



CHARLES T. WALTZ, P.E.

Project: Bruceton Mills Subsidence Claim

Geotechnical

Bruceton Mills, Preston County, West Virginia

Role: Project Manager Project Year: 2013

Project: Monongah Subsidence Claim

Geotechnical

Monongah, Marion County, West Virginia

Role: Project Manager Project Year: 2013

Project: Eccles Subsidence Claim

Geotechnical

Eccles, Raleigh County, West Virginia

Role: Project Manager Project Year: 2013

Project: Fairmont Subsidence Claim

Geotechnical

Fairmont, Marion County, West Virginia

Role: Project Manager Project Year: 2012

Project: Whitehall Subsidence Claim

Geotechnical

Whitehall, Marion County, West Virginia

Role: Project Manager Project Year: 2012

Transportation

Project: I-81 Martinsburg to Marlowe Interchange

Design Build

Martinsburg, Jefferson County, West Virginia

Role: Project Engineer Project Year: 2011

Project: Benedum Airport Lighting Towers

Geotechnical

Bridgeport, Harrison County, West Virginia



Education

Project: Lumberport Middle School

Geotechnical

Shinnston, Harrison County, West Virginia

Role: Project Manager Project Year: 2013

Project: Huff Consolidated School

Geotechnical

Wyoming County, West Virginia

Role: Project Engineer Project Year: 2012

Project: Alderson-Broaddus College New Dormitory Buildings

Geotechnical Evaluation

Philippi, Barbour County, West Virginia

Role: Project Engineer Project Year: 2012

Project: East Preston School

Geotechnical

Terra Alta, Preston County, West Virginia

Role: Project Engineer Project Year: 2011

Project: Davis & Elkins College Hermanson Welcome Center

Geotechnical

Elkins, Randolph County, West Virginia

Role: Project Engineer Project Year: 2013

Project: Central Preston Middle School

Geotechnical/Construction Services

Kingwood, Preston County, West Virginia



CHARLES T. WALTZ, P.E.

Geotechnical Project Manager

Expertise:

Mr. Waltz serves as a Project Manager in the Geotechnical Engineering Services Department of CTL Engineering of West Virginia, Inc. Waltz also serves as Project Manager/Engineeer for all of the WV BRIM Projects.

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Education:

B.A., Business Administration Fairmont State University

B.S., Engineering Fairmont State University

Graduate Studies, Geotechnical Engineering West Virginia University

Professional Registration / Certifications:

Registered Professional Engineer

West Virginia, # 17626; Virginia, # 37038

CTL Experience:

3 Years

Project Experience

A partial listing of Mr. Waltz's relevant project experience includes:

Subsidence Related

Project: Windsor Heights Subsidence Claim

Geotechnical

Windsor Heights, Brooke County, West Virginia

Role: Project Manager Project Year: 2011

Project: Shinnston Subsidence Claim

Geotechnical

Shinnston, Harrison County, West Virginia

Role: Project Manager Project Year: 2011

Project: Metz Subsidence Claim

Geotechnical

Metz, Marion County, West Virginia



Project: Bruceton Mills Subsidence Claim

Geotechnical

Bruceton Mills, Preston County, West Virginia

Role: Project Manager Project Year: 2013

Project: Monongah Subsidence Claim

Geotechnical

Monongah, Marion County, West Virginia

Role: Project Manager Project Year: 2013

Project: Eccles Subsidence Claim

Geotechnical

Eccles, Raleigh County, West Virginia

Role: Project Manager Project Year: 2013

Project: Fairmont Subsidence Claim

Geotechnical

Fairmont, Marion County, West Virginia

Role: Project Manager Project Year: 2012

Project: Whitehall Subsidence Claim

Geotechnical

Whitehall, Marion County, West Virginia

Role: Project Manager Project Year: 2012

Transportation

Project: I-81 Martinsburg to Marlowe Interchange

Design Build

Martinsburg, Jefferson County, West Virginia

Role: Project Engineer Project Year: 2011

Project: Benedum Airport Lighting Towers

Geotechnical

Bridgeport, Harrison County, West Virginia



Education

Project: Lumberport Middle School

Geotechnical

Shinnston, Harrison County, West Virginia

Role: Project Manager Project Year: 2013

Project: Huff Consolidated School

Geotechnical

Wyoming County, West Virginia

Role: Project Engineer Project Year: 2012

Project: Alderson-Broaddus College New Dormitory Buildings

Geotechnical Evaluation

Philippi, Barbour County, West Virginia

Role: Project Engineer Project Year: 2012

Project: East Preston School

Geotechnical

Terra Alta, Preston County, West Virginia

Role: Project Engineer Project Year: 2011

Project: Davis & Elkins College Hermanson Welcome Center

Geotechnical

Elkins, Randolph County, West Virginia

Role: Project Engineer Project Year: 2013

Project: Central Preston Middle School

Geotechnical/Construction Services

Kingwood, Preston County, West Virginia



Expertise:

As the Construction Services Manager for CTL Engineering of West Virginia Inc., Mr. Gowarty is responsible for supervising field and laboratory technicians. He is also responsible for report writing for field and laboratory testing, project management, client contact, estimating, proposals and invoicing for Construction Services Department. Mr. Gowarty's experience also includes surveying, pre-mining and pre-blast surveys, field supervision of drilling crews, Phase I Environmental Site Assessments and radiation safety officer and corporate safety officer. In addition, Mr. Gowarty is the Construction Materials Testing Supervisor, providing concrete, compaction, and aggregate testing and has over twenty (20) years of experience with Nuclear Gauge Operation.

Mr. Gowarty has been CTL's Corporate Safety Officer since Fall 2008. Mr. Gowarty is CTL's USNRC Safety Officer.

Education:

B.S., Civil Engineering Technology, 1990 Fairmont State College; Fairmont, West Virginia

A.S., Mechanical Engineering Technology, 1990 Fairmont State College; Fairmont, West Virginia

Professional Registrations/ Certifications:

Safety

Radiation Safety Training, CPN Corporation Radiation Safety Officer Training, Troxler Electronics Principals of Fire Protection, Fairmont State University Certified Forklift Trainer, Brickstreet Insurance Drug Free Workplace Employee Trainer, Working Partners Drug Free Workplace Supervisor Trainer, Working Partners

Other

West Virginia DOT Certified Compaction Technician
West Virginia DOT Certified Bituminous Concrete Technician
West Virginia DOT Certified Portland Cement Concrete Technician
West Virginia DOT Certified Aggregate Sampler
NICET Level III Asphalt & Concrete
NICET Level II Soils
Certified Dipfloor Profiler Operator, Face Company

Career Experience:

CTL Experience – 24 years



Construction Services Manager

Project Experience

A partial listing of Mr. Gowarty's relevant project experience includes:

Energy

Project: Harrison Power Station CCB Landfill Phase V Step III

Construction Services

Haywood, Harrison County, West Virginia

Role: Project Manager Project Year: 2010

Project: Leer Mine Complex

Construction Services

Grafton, Taylor County, West Virginia

Role: Project Manager Project Year: 2013

Project: Tunnel Ridge Coal

Construction Services

Wellsburg, Ohio County, West Virginia

Role: Project Manager Project Year: 2011

Project: Refuse Testing

Testing Services

Wellsburg, Ohio County, West Virginia

Role: Project Manager Project Year: 2011

Project: Kammer – Mitchell Run Dam Raising Project

Construction Services

Marshall County, West Virginia

Role: Project Manager Project Year: 2008

Building Development

Project: University Place – Morgantown, West Virginia

Construction Services/Survyeing/Geotechnical/Environmental/Site Civil

Morgantown, Monongalia County, West Virginia



Construction Services Manager

Project: Downtown Panera Bread

Various Services

Morgantown, Monongalia County, West Virginia

Role: Project Manager Project Year: 2013

Project: Hazelton Federal Corrections Institution

Various Services

Hazelton, Preston County, West Virginia

Role: Project Manager Project Year: 2010

Project: U.S. Department of Energy Facility

Geotechnical/Construction Services/Surveying Morgantown, Monongalia County, West Virginia

Role: Project Manager Project Year: 2008

Primary/Secondary Schools

Project: Central Preston Middle School

Various Services

Kingwood, Preston County, West Virginia

Role: Project Manager Project Year: 2012

Project: East Preston School

Geotechnical/ Construction Services Terra Alta, Preston County, West Virginia

Role: Project Manager Project Year: 2012

Project: Bruceton Mills School

Various Services

Bruceton Mills, Preston County, West Virginia

Role: Project Manager Project Year: 2013

Project: New University High School

Construction Services/Geotechnical/Grout Plan Development

Morgantown, West Virginia Role: Construction Services Manager

Project Year: 2006 - 2008



Construction Services Manager

Higher Education

Project: West Virginia University Health Sciences Center Animal Facility Annex

Surveying/Geotechnical/Construction Services

Morgantown, West Virginia

Role: Project Manager Project Year: 2012

Project: West Virginia University AERB

Construction Services

Morgantown, Monongalia County, West Virginia

Role: Project Manager Project Year: 2013

Project: Alderson-Broaddus College New Football Field

Surveying/Materials Testing

Philippi, Barbour County, West Virginia

Role: Construction Services Manager

Project Year: 2011

Transportation

Project: I-81 Martinsburg to Marlowe Interchange

Design Build

Martinsburg, Jefferson County, West Virginia

Role: Construction Services Manager

Project Year: 2011

Project: Mileground Roundabout

Construction Services

Morgantown, Monongalia County, West Virginia

Role: Project Manager Project Year: 2013

Project: Fairmont Airport

Various Services

Fairmont, Marion County, West Virginia

Role: Project Manager Project Year: 2012

Project: Benedum Airport

Geotechnical/Construction Services

Bridgeport, Harrison County, West Virginia



Construction Services Manager

Project: Jackson County Airport

Construction Services

Ravenswood, Jackson County, West Virginia

Role: Construction Services Manager

Project Year: 2009

Hospitals

Project: Ambulatory Care Center

Geotechnical/Construction Services

Morgantown, Monongalia County, West Virginia

Role: Project Manager Project Year: 2013

Project: New Preston Memorial Hospital

Various Services

Kingwood, Preston County, West Virginia

Role: Project Manager Project Year: 2013

Project: Mon General Hospital Roadway

Materials Testing

Morgantown, Monongalia County, West Virginia

Role: Project Manager Project Year: 2011

Municipal Infrastructure

Project: Water Treatment Plant Corrective Action Design

Geotechnical/Construction Services Fairmont, Marion County, West Virginia

Role: Construction Services Manager

Project Year: 2009

Project: Water Treatment Facility Expansion

Various Services

Morgantown, Monongalia County, West Virginia

Role: Construction Services Manager

Project Year: 2007



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RFQ	NO.	

STATE OF WEST VIRGINIA Purchasing Division

PURCHASING AFFIDAVIT

MANDATE: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

WILLIAE 22 THE LOCEOVILLO CLOTHER			
Vendor's Name: CTL Engineering of West Virginia, Inc.	с.		
Authorized Signature:		Date:12/26/20	13
State of West Virginia			
County of Monongalia, to-wit: Taken, subscribed, and sworn to before me this 26th day	y ofDecember	, 20	<u>113</u> .
My Commission expiresJanuary 17	, 20 <u>20</u> .		000-
AFFIX SEAL HERE	NOTARY PUBLIC	,	en y Szien Affidavit (Revised 07/01/2012)



CHESTAL SEAL LICETAL A PUBLIC STOUGH OF SHARRINIA COME TO THE OF BRITEN STORMS, WV 26542 COURTY 17, 2020



OFFICIAL SEAL NOTARY PUBLIC

STATE OF WEST VIRGINIA KATHLEEN J. O'BRIEN 451 Nuce Rd., Masontown, WV 26542 My Commission Expires January 17, 2020

CERTIFICATION AND SIGNATURE PAGE

By signing below, I certify that I have reviewed this Solicitation in its entirety; understand the requirements, terms and conditions, and other information contained herein; that I am submitting this bid or proposal for review and consideration; that I am authorized by the bidder to execute this bid or any documents related thereto on bidder's behalf; that I am authorized to bind the bidder in a contractual relationship; and that to the best of my knowledge, the bidder has properly registered with any State agency that may require registration.

CTL Engineering of Wes	st virginia, inc.
(Company)	
1	
(Authorized Signature)	
Patrick E. Gallagher, Pr	resident
(Representative Name,	Γitle)
(304) 292-1135	(304) 296-9302
(Phone Number)	(Fax Number)
12/26/2013	
(Date)	

ADDENDUM ACKNOWLEDGEMENT FORM SOLICITATION NO.: DEP16394

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum N (Check the bo	umbers Received: x next to each addendum receiv	ved)		
	Addendum No. 1		Addendum 1	No. 6
	Addendum No. 2		Addendum	No. 7
	Addendum No. 3		Addendum	No. 8
	Addendum No. 4		Addendum N	0. 9
	Addendum No. 5		Addendum N	lo. 10
further unders	hat failure to confirm the receip stand that any verbal representa ld between Vendor's representa ssued in writing and added to th	tion ma atives ar	de or assumed nd any state per	to be made during any oral ronnel is not binding. Only the
		CTL E	Engineering of W	est Virginia, Inc.
		A	3	Company
	4	1		Authorized Signature
		12/26/	2013	
				Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.

AML and RE	LATE	ED P	RC	JE	C.	ΤΕ	XF	PEF	RIE	NC	E	MA	TR	IX	(20	08 -	- 20°	13)					
		50 400 70	PROJECT EXPERIENCE REQUIREMENTS											PRIMARY STAFF PARTICIPATION/CAPACITY *** M=Management P=Professiona									
PROJECT	Exp. Basis C=Corp. P=Personal	Additional Info Provided in Section (s)	Abandoned Surface Mine Reclamation	Abandoned Deep Mine Reclamation	Portal/Shaft Closure	Hydrologic/Hydraulic Design/Eval.	Remining Evaluation	Mine Refuse/ Fire Abatement	Subsidence Investigation Mitigation	Hazardous Waste Disposal	Project Specifications	Water Quality Evaluation/Mitigation/ Replacement	Construction Inspection/Management	Water Treatment	Equipment/ Structure Removal	Stream Restoration	Geotechnical/Stability	PATRICK GALLAGHER, PE	TIM DARRAH	GREGORY FOREMAN, P.E.	JOSEPH STANLEY	CARL SELFRIDGE	CHARLES WALTZ, P.E.
HOPEWELL CHURCH REFUSE & AMD (WV AML '13)	С	Profile		х	х	x					х							MP	MP		Р		Р
MORGANTOWN ANDERSON HIGHWALLS (WV AML '12)	С	Profile		х	х	x					х							MP	MP		Р		Р
SHINNS RUN PORTALS (WV AML '11)	С	Profile		х	х												х	MP	MP		Р	Р	
PENINSULA HIGHWALLS (WV AML '09)	С	Profile	х	х		х			х		х						х	MP	MP		Р	Р	
ST. CLAIR PORTALS (WV AML '09)	С	Profile	х	х	х	х					х					х	х	MP	MP		Р	Р	
CHEAT NECK LANDSLIDE (WV AML '09)	С	Profile			х	х					х						х	МР	MP		Р	Р	
FAIRMONT SUBSIDENCE (WV AML '12)	С			х					х		x						х	MP	МР		Р	Р	F
TERRA HAUTE AIRPORT (IN AML '10)	С			х					х		х						х	MP	МР			Р	
SCHRAMM - GORDON -EAST FRANKLIN LANDSLIDES (MD AML '12)	С		х	х							х						х	MP	MP		Р	Р	F
DOUGLAS AVENUE STORMWATER SYSTEM (MD AML '12)	С					х						х						MP		MP		Р	
FAIRMONT SUBSIDENCE (WV AML '12)	С			х					х		х						х	MP	MP		Р	Р.	F
DOUGLAS AVENUE LANDSLIDE (MD AML '12)	С			х		х			х		х						х	MP	MP		Р	Р	ı
LOWER CONSOL ROAD SUBSIDENCE (MD AML '11)	С		х	х					х		х						х	MP	MP		Р	P	ı
BALD KNOB WATER SUPPLY STUDY (MD AML '12)	С					х						х						MP	MP	Р			
REAM REFUSE PILE (WV AML '10)	С		Х					х										MP	MP		P		
PEE WEE HILL WATER SUPPLY (MD AML '10)	С											х						MP		MP			
KENNEL MINE CLOSURE (MD AML '10)	С		Х	х	х						х							MP	MP		Р		
FROSTBURG NORTH CLOSURE (MD AML '10)	С		х	х	х						х							MP	MP		Р		
PEE WEE HILL WATER FEASIBILITY (MD AML '10)	С											х						MP		MP		Р	
WILLIAMS REFUSE PILE #2 (Private AML '09)	С		х			х	х			х	х	х	х	х			х				MP		
FARMINGTON UMC (WV DEP EMER. '09)	С								Х		х							MP	MP	-		Р	
MORNINGSIDE BAPTIST (WV DEP EMER. '09)	С								х		х			_				MP	MP			P	
COLLINS MINING (ODNR FOR. '09)	С		х								Х			518				MP	MP		Р		
FAIRVIEW WATER FEASIBILITY(WV AML '09)	С											х						MP	MP	Р			
AARON'S RUN (MD AML '09)	С		х			х					х	х		х		х		MP	MP		Р		
ECCLES SUBSIDENCE (WV AML '08)	С								х		х						х	MP	MP			Р	
McARTHUR SUBSIDENCE (WV AML '08)	С								х								х	MP	MP			Р	
TIOGA WATER FEASIBILITY (WV AML '08)	С											х						MP	MP	Р			
McCOURT LANDSLIDE(ODNR FOR. '08)	С		х			х					х						х	MP	MP		Р	Р	
JONES TRUCKING (ODNR FOR. '08)	С		х								х							MP	MP		P		
MILLER MINING (ODNR FOR. '08)	С					х					х	х					-	MP	MP	-	P		
ZILMAN CLOSURE (MD AML '08)	С			х	х						х							MP	MP	_	P		
CALDONIA HILL SLOPE STABILITY (MD AML '08)	С		х														х	MP	MP				
WEST VIRGINIA BRIM (2005 - 2012) 42 Projects	С								х								х	MP	MP			P	P
OMSIUA (2005 - 2010) 47 Projects	С		-						х							-	x	MP	MP			P	
(2005 - 2008) 20 Additional AML Projects for WV, MD, OH, PA	С		х	х	х				х		х	x	х		-		x	MP	MP			P	P

^{*} List whether project experience is corporate or personnel based or both.

** Use this area to provide specific sections or pages if needed for reference.

*** List Primary Design personnel and their functional capacity for the projects listed.